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10/644,287

08/20/2003

Yujun Li

AA-544

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27752

7590

09/14/2005

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EXAMINER

ANTHONY, JOSEPH DAVID

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/644,287

Applicant(s)

LI, YUJUN

Examiner

Joseph D. Anthony

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 16, 18, 19, 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-15, 17, and 20, drawn to an exothermic composition, classified in class 252, subclass 183.12.
  - II. Claims 16, 19 and 21-22, drawn to a process for generating heat, classified in class 126, subclass 263.05.
  - III. Claim 18, drawn to an apparatus for generating heat, classified in class 126, subclass 263.06.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used as soil fertilizer/conditioning agent.
3. Inventions II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by just adding the composition to water by hand.

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4. Inventions I and III are related as mutually exclusive inventions in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product, and the inventions are patentably distinct. In the instant case, the intermediate product is deemed to be useful as a soil fertilizer/conditioning agent and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

7. During a telephone conversation with Brent Teebels on 09/02/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-15, 17, and 20. Affirmation of this election must be made by applicant in replying to this Office

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action. Claims 16, 18-19 and 21-22 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 2-4, 17 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is deemed to be indefinite in light of claim 3. The problem here is that claim 2 is claiming the reaction mixture of claim 1 further comprising an aqueous solution. Applicant's specification is absolutely clear that when an aqueous solution is combined with the reaction mixture of claim 1, the reaction process starts to produce heat at a controlled rate. As such, claim 2 is really being drawn to a –reacting mixture— that is generating or will very shortly start generating heat and is thus not an unreacted “reaction mixture” of independent claim 1. Claim 3 is thus indefinite because the first line of the claim has the

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phrase: "wherein **when the** exothermic generating particles and the aqueous solution are mixed together" [emphasis added]. This makes no sense whatsoever since claim 2 requires that the exothermic generating particles and the aqueous solution have already been combined together. Claim 17 is indefinite in regards to the phrase "The process of claim 14". The problem here is that claim 14 is drawn to a "reaction mixture" and not to a "process". Likewise, claim 20 is indefinite in regards to the phrase "The apparatus of claim 17". The problem here is that claim 17 is drawn to a "process" and not to an "apparatus". Applicant is reminded that the elected invention is drawn to a "reaction mixture". Any upcoming amendment of applicant that amends claims 17 and 20 outside of said elected invention, will cause the examiner in the next office action to withdrawal such claims as being non-elected by original presentation.

### ***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-15, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al. U.S. Patent Number 6,180,124.

Ohta et al teach a cosmetic composition comprising (A) a polyhydric alcohol and (B) a finely particulate metal oxide, wherein water is substantially not contained. The cosmetic composition has an optimum viscosity and can be in the form of a gel, undergoes no precipitation of particles, spreads well upon use and has good easiness of washing off and is hence particularly useful as a massaging cosmetic. The cosmetic composition can contain additional adjuvants such as antiseptics, germicides, vitamins, colorants, perfumes etc. see column 4, lines 53-64.

Ohta et al differs from applicant's claimed invention in the following ways:

1) there is no direct teaching (i.e. by way of an example) to a cosmetic composition that contain a component that falls within applicant's claimed volatile component, 2) there is not an explicit disclosure to applicant's claimed reaction temperatures parameters of claims 3-4 and 20, and 3) there is no explicit disclosure to exothermic generating particles having a size within the range of

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claim 9. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference as motivation to make compositions that actually contain additional adjuvants such as antiseptics, germicides, perfumes, all of which read on applicant's claimed volatile coating component. Likewise it would have been obvious to add a colorant or an anti-foaming agent to gel compositions in since are suggested by the reference in column 4, lines 53-64. Also note that polyhydric compounds such as propylene glycol in example 3, and 1,3-butanediol in Example 4, can function as anti-foaming agents. It would also have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference as motivation to actually make compositions that meet applicant's claimed reaction temperatures parameters by employing different concentrations of the water soluble carriers and/or binders PEG and/or hydroxypropyl cellulose as set forth in the examples. Likewise applicant's claimed exothermic generating particle size range is deemed to be obvious over the reference's disclosure. In any case, applicant has set forth no showing of any unobvious and superior results using exothermic particles that fall within the claimed size range.

14. Claims 1-13, 17 and 20 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Needleman et al. U.S. Patent Number 5,993,854.



Needleman et al teach an aroma releasing composition that can be in the form of granules, tablets or suspensions (e.g. gels) has an effervescent agent, an exothermic agent and a volatile agent, the effervescent agent and exothermic agent provided in a ratio sufficient to promote release of the volatile agent, when the composition is placed in water. Such a composition has use, alone, in promoting release of fragrance agents, or in combination with a product, such as a body lotion, shampoo or liquid soap. Applicant's claims are deemed to be anticipated over formulas (i.e. formulations) 3-4, in column 4, wherein both the PEG binder component and the sorbitol binder component read on applicant's claimed water soluble coating component. The sorbitol component is also a known anti-foaming agent and applicant's claims are open to the references effervescent components. In addition the concentration of the sorbitol component is so high in said formulations that it would function as a continuous water soluble phase for the other components found within these formulations. Also see columns 3-4 and the claims.

In the alternative, Needleman et al may differ from applicant's claimed invention: 1) if formulations 3-4 above, are not in the form of a suspension (e.g. a gel), 2) there is not an explicit disclosure to applicant's claimed reaction temperatures parameters of claims 3-4 and 20, and 3) there is not an explicit disclosure to applicant's claimed exothermic generating particle size range of claim 9. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference as motivation to actually make

compositions that meet applicant's claimed reaction temperatures parameters of claims 3-4 and 20 by employing different concentration of the water soluble binders (e.g. sorbitol and/or PEG). Likewise applicant's claimed exothermic generating particle size range of claim 9 is deemed to be obvious over the reference's disclosure. In any case, applicant has set forth no showing of any unobvious and superior results using exothermic particles that fall within the claimed size range. Finally, even if formulations 3-4 above, are not in the form of a suspension (e.g. a gel) such would have been obvious because: 1) such suspensions are suggested by the broad disclosure of the reference, see claim 5, and 2) such could occur when the exothermic effervescent composition is combined with products such as body lotions, shampoo or liquid soap which are well known in the art to contain PEG as a continuous carrier material.

15. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Needleman et al. U.S. Patent Number 5,993,854 optionally in view of Ohta et al. U.S. Patent Number 6,180,124.

Needleman et al has been described above and differs from applicant's claimed invention in that there is not a direct disclosure to the further addition of coloring agents. It would have been obvious to one having ordinary skill in the art to add coloring agents as an additional component since such come within the broad disclosure of the reference, see column 3, lines 61-67. In the alternative, the disclosure of Ohta et al to the optional addition of colorants to cosmetic

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composition provides amply motivation for one having ordinary skill in the art to add such colorants to the composition taught by Needleman et al..

16. Claims 1-15, 17, and 19 are rejected under 35 U.S.C. 103(a) as being obvious over WO 99/48469 optionally in view of Ohta et al. U.S. Patent Number 6,180,124.

WO teaches compositions for aroma delivery that comprise an aromatic ingredient, and exothermic ingredient, a pH adjusting agent and optional adjuvants such as **carriers**, **binders**, and **coloring agents**, see abstract, and pages 7-11. Please note the composition produced in Example V, wherein a water soluble sugar is combined with magnesium to produce the 'magnesium – sugar granules. WO differs from applicant's claimed invention in that: 1) there does not seem to be a direct teaching (i.e. by way of an example) to a composition that is actually in the form of a PEG containing suspension (e.g. a gel), 2) there is not an explicit disclosure to applicant's claimed reaction temperatures parameters of claims 3-4 and 20, and 3) there is not an explicit disclosure to applicant's claimed exothermic generating particle size range of claim 9. It would have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference as motivation to actually make compositions that meet applicant's claimed reaction temperatures parameters by employing different concentration of the water soluble carriers and binders (e.g. **gelatin**, **gums**, sugar, sugar alcohols). Likewise applicant's claimed exothermic generating particle size range is deemed to be obvious over the reference's

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disclosure. In any case, applicant has set forth no showing of any unobvious and superior results using exothermic particles that fall within the claimed size range. Finally, it would have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference to carrier and/or binder material as motivation to form the composition in the form of suspension wherein PEG of the listed MW is a component. In the first place the reference directly suggest using the carrier component at a concentration from about 10 to about 70% by weight of the composition, see page 8. When mid-range and upper level concentrations of the carrier component are used would suspensions (e.g. gels) would result. WO is optionally taken in view of Ohta et al for Ohta et al's disclosure that it is well known in the art to use higher molecular weight PEG, such as PEG-2000, see Example 1 as a carrier/binder material for exothermic cosmetic compositions. As such, to use PEG-2000 as a carrier/binder material in the suspension type compositions suggested by WO, would have been obvious to one having ordinary skill in the art.

17. Claims 1-15, 17, and 20 are rejected under 35 U.S.C. 103(a) as being obvious over Bell et al. U.S. Patent Number 5,935,486 optionally in view of Ohta et al. U.S. Patent Number 6,180,124.

Bell et al teach a portable heat source, wherein the rate of heat production is controlled, that may be used to warm food, beverage or other supplies. The heater material is a solid that may be stored for long periods of time, and

activated by addition of water or an aqueous solution. The heater consists of an acidic anhydride or salt together with a basic anhydride or salt, such that addition of water to both acidic and basic anhydrides produces heat as well as acid and base respectively; subsequent reaction of the acid and base produces additional heat, as well as a safe, neutral product that is easily disposed. The invention further consists of means to regulate the rate of heat production by the use of additives and processing methods, so that heat is produced at a rate compatible with the rate at which the food or other materials can absorb the heat. The invention further consists of devices incorporating the materials to be heated in an advantageous arrangement with the heater composition, see abstract. The portable heat source can be in the form of powders, tablets, such as multi-layer tablets, and/or gels, see page 12, line 39 to page 13, line 65 and example 2-3. Please note that examples 2-3 contain the non-ionic surfactant Brij 30 which is an ethoxylated alcohol surfactant. Also note that the acidic anhydride component can function as a buffer component when the portable heat source is added to water.

Bell et al differ from applicant's claimed invention in that: 1) there does not seem to be a direct teaching (i.e. by way of an example) to a composition that is actually in the form of a PEG containing suspension (e.g. a gel), 2) there is not an explicit disclosure to applicant's claimed reaction temperatures parameters of claims 3-4 and 20, and 3) there is not an explicit disclosure to applicant's claimed exothermic generating particle size range of claim 9. It would have been obvious

to one having ordinary skill in the art to use the broad disclosure of the reference as motivation to actually make compositions that meet applicant's claimed reaction temperatures parameters by employing different concentration of water soluble members that fall within the **suitable inert materials** as set forth in column 13, lines 1-52 of the patent. Likewise applicant's claimed exothermic generating particle size range is deemed to be obvious over the reference's disclosure. In any case, applicant has set forth no showing of any unobvious and superior results using exothermic particles that fall within the claimed size range. Finally, it would have been obvious to one having ordinary skill in the art to use the broad disclosure of the reference to forming the compositions in the form of gels as motivation to actually form the compositions in the form of suspensions (e.g. gels) wherein PEG of the listed MW is a component. In the first place the reference directly suggest using **suitable inert materials**, such as natural and synthetic polymeric materials which can be water soluble, at a concentration from about 1 to about 90% by weight of the exothermic composition, see column 13, lines 1-49. When mid-range and upper level concentrations of such water soluble natural and/or synthetic polymeric materials are used, suspensions (e.g. gels) would result. Bell et al. is optionally taken in view of Ohta et al for Ohta et al's disclosure that it is well known in the art to use higher molecular weight PEG, such as PEG-2000, see Example 1 as a carrier/binder material for exothermic cosmetic compositions. As such, to use PEG-2000 as a carrier/binder material in

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the suspension type compositions suggested by Bell et al., would have been obvious to one having ordinary skill in the art.

### Double Patenting

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

19. Claims 1-15, 17 and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 and 19 of copending Application No. 10/341,048. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims overlap the scope of said claims in said copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

20. Claims 1-15, 17 and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12

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and 19-20 of copending Application No. 10/340,993. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims overlap the scope of said claims in said copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

21. Claims 1-15, 17 and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 10/341,196. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims overlap the scope of said claims in said copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Prior-Art Cited But Not Applied***

22. Any prior-art reference, which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention.

#### ***Examiner Information***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's



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supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



**Joseph D. Anthony**  
**Primary Patent Examiner**  
Art Unit 1714

9/6/05